

# Transit-Time Ultrasonic Gas Flowmeter Xonic 10GX



- NET(New Excellent Technology) Certified from Ministry of Industry, ROK
- PATENT 10-0560364
- Ultrasonic Transit-Time Method
- Insertion Type Transducer
- Self-Diagnostic : Oscilloscope Function
- Measure from 0.01 m/s
- Velocity Range :  $\pm 20$  m/s
- Large Color Graphic LCD

Xonic 10G Ultrasonic Flowmeter use ultrasonic transit-time method, and has better performance than traditional DP type flowmeters. It use 1 pair or 2 pair transducers according to applications, and compensate temperature changes with it's own sound speed measurement function with optional temperature sensor. Xonic 100G is new developed ultrasonic gas meter and has very sophisticated fuctions for better performance.

Xonic 10G certified NET (New Excellent Technology) from MoST in 2007 with PATENT "Very precise time measurement method" and Xonic 10G was developed with support from Ministry of Environment.

DP type gas flowmeters have pressure loss, and they have very limited flow range. So, they are difficult to measure very low flow and very high flow. But, ultrasonic flowmeter do not have pressure loss, and can measure from very low flow to very high flow, because velocity range is from -30 m/s to +30 m/s, and can measure very low velocity 0.01 m/s. And Xonic 10G can measure positive flow and negative flow, so can be used for bi-directional applications.

# High Performance Best Reliability Xonic 10G

## Application

Xonic 10G use transit-time, time difference method to measure flow, and use DSP technology to remove noise from pipe or electric. And, also use Cross Correlation technology and FFT(Fast Fourier Transform) technology and can select very clean ultrasonic signal. Xonic 10G can measure gas flow of air, normal gas, etc.

## Measuring Principle

When transmit ultrasonic energy from upper direction to down direction, and transmit ultrasonic energy from down direction to upper direction, there happen time difference between positive direction to negative direction. And, the time difference is directly related to flow velocity.

## Input and Output

Xonic 10G can receive two 4-20mADC input signal from temperature transmitter or pressure transmitter and the data via RS-232C. User can see the pressure and temperature data in control room without expensive datalogger.

Transducers are all stainless steel 316L with explosion proof type and corrosion resistance. Xonic 10G standard model has 1 pair transducers and Xonic 10DG dual path model has 2 pair transducers for high accuracy.

In case of self-diagnostic function, user can confirm ultrasonic waveform through Xonic 10G display without oscilloscope in site.

## Xonic 10G Performance

- Velocity Range : 0.01~30m/s
- Accuracy : 1.0%
- Sensitivity : 0.01m/s
- Data Input : 2 (temperature, pressure)
- Data Output : 4-20mADC, RS-232C
- Datalogger : 4Mb
- Repeatability : 0.25%
- Display : Color Graphic LCD 128x64
- Operating Temperature
  - Flow Computer : -20 ~ +60°C
  - Transducer : -40 ~+120°C
- Power : 110~220VAC, free voltage
- Enclosure
  - Flow Computer : NEMA 4 (IP65)
  - Transducer : NEMA 7 (IP68)

